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REMARKS

The present application includes claims 23-26, 28-43 and 45-85. Claims 27 and 44 were cancelled. Claims 23, 28, 32, 33, 38, 45, 47, 50, 55, 56, 59, 66, 71, 72, 74 and 77 are currently amended. Claims 79-85 are new. The amendment to claim 23 finds support in original claim 27. The first statement added to claim 32 finds support at least on page 8, lines 15-20. The second statement added to claim 32, the amendment to claim 77 and new claim 84, find support at least in one or more of page 3, lines 11-22, page 8, lines 24-28 and page 9, lines 14-15. The amendment to claim 45 finds support at least on page 3, lines 21-22. New claim 79 finds support at least on page 12, line 5. New claim 80 finds support at least on page 11, lines 21-23. New claim 81 finds support at least one page 9, lines 14-16. The differences between new claim 82 and the old claims find support at least on page 19 and page 8, lines 15-20. New claim 85 finds support at least on page 18, lines 32-33. Claims 72 and 74 have been amended to correct a grammatical error.

Premature finality

Applicant notes that the rejection of claim 32 uses a new reference (Pray) which was not required by applicants' amendment of the claim (as the amendments all related to matters of form), but rather was required due to the Examiner's finding that applicant's arguments were persuasive (page 20 of the office action). Therefore, the finality of the office action is premature and should be retracted. Applicant requests that the Examiner indicate the retraction of the finality urgently in order to avoid imposing extra costs on applicant.

New matter rejections

The amendment of March 3, 2005 was objected to for introducing new matter. Claim 77 was objected to for including an "input interface". Claim 77 was amended to remove the input interface.

Claims 32, 45 and 72 were objected for including the requirement "selecting [less than 10%, less than 1%, fewer than all] of the physical elements of the vehicle".

Applicant respectfully traverses the rejection and states that the selecting is discussed on page 9, lines 28-33 and rules governing the selection appear on page 12, lines 22-26.

Nonetheless, in order to expedite the handling of the application, the selecting requirement was removed from claim 32 and was amended in claim 45. Claim 72 was not amended to remove this requirement and applicants are relying on the above cited sections of the application as filed.

Non-statutory rejections

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Claims 45-49 and 78 were rejected under 35 U.S.C. 101, as being directed to non-statutory subject matter. The Examiner stated that the broadest reasonable interpretation of claims 45-49 includes a method executed by a human and that the claims are not directed to a technology art. The Examiner cited MPEP 2111, which relates to a case of a mathematical manipulation.

Applicant respectfully traverses the rejection. There is no limitation in the law or rules on methods carried out by humans and the Examiner has failed to bring a quotation from the MPEP supporting the rejection of methods carried out by humans. The cited section from MPEP 2111 relates to giving the claims their broadest meaning and states that unless the claim specifically states that a method is performed by a machine it is to be interpreted as including acts performed by a person. The rejection under 35 U.S.C. 101 in the example from MPEP 2111 relates to abstract ideas and has nothing to do with the fact that the claims encompass acts carried out by humans. Applicants repeat that methods carried out by humans are not excluded under 35 U.S.C. 101 and that the Examiner has presented no basis for any different conclusion.

Regarding the relation to a technology art, assigning codes to elements of an aircraft is not manipulation of abstract ideas and is clearly concrete and tangible. MPEP 2106 II A. states as follows:

"Office personnel have the burden to establish a *prima facie* case that the claimed invention as a whole is directed to solely an abstract idea or to manipulation of abstract ideas or does not produce a useful result. Only when the claim is devoid of any limitation to a practical application in the technological arts should it be rejected under 35 U.S.C. 101. Compare *Musgrave*, 431 F.2d at 893, 167 USPQ at 289; *In re Foster*, 438 F.2d 1011, 1013, 169 USPQ 99, 101 (CCPA 1971). Further, when such a rejection is made, Office personnel must expressly state how the language of the claims has been interpreted to support the rejection.

Applicant respectfully submits that the Examiner has not established a *prima facie* case that the claimed invention is non-statutory. The Examiner's discussion relates to a broad interpretation of the claim (which does not offend section 101) and not to the rejection based on the claim being non-statutory. Retraction of the rejection is respectfully requested. Applicant notes that claim 45 was amended to specifically state how the major elements are selected and thus prevents the broad interpretation given by the Examiner and forwards the claim towards allowance.

Enablement and clarity

Claims 32-49, 53-74 and 78 were rejected under 35 U.S.C. 112, first paragraph, as lacking enablement for selecting a portion of the physical elements of the vehicle.

As mentioned above, the act of selecting is discussed in the application, which provides sufficient support for the claims. The phrase "physical elements of the vehicle" is very clear and there is no reason why any person reading the claim and comparing to methods performed in

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designing a vehicle would not be able to determine what are the physical elements of the vehicle. The Examiner's discussion relates to the scope of the claim and not to ambiguity of the claim.

Claim 27 was rejected for using the term "substantially". The Examiner is ignoring the instructions in MPEP 2173.05(b), which clearly state that use of the term "substantially" is permissible. Applicant submits that were the Examiner's logic used in rejecting claim 27 applied to the examples in the MPEP, all of the cases in the MPEP should have been rejected. As they were allowed by the courts, the use of the term "substantially" in claim 23, which incorporates the limitation of claim 27, should be allowed.

For the Examiner's convenience, applicant is copying the relevant paragraph of the MPEP:

D. "Substantially"

The term "substantially" is often used in conjunction with another term to describe a particular characteristic of the claimed invention. It is a broad term. *In re Nehrenberg*, 280 F.2d 161, 126 USPQ 383 (CCPA 1960). The court held that the limitation "to substantially increase the efficiency of the compound as a copper extractant" was definite in view of the general guidelines contained in the specification. *In re Mattison*, 509 F.2d 563, 184 USPQ 484 (CCPA 1975). The court held that the limitation "which produces substantially equal E and H plane illumination patterns" was definite because one of ordinary skill in the art would know what was meant by "substantially equal." *Andrew Corp. v. Gabriel Electronics*, 847 F.2d 819, 6 USPQ2d 2010 (Fed. Cir. 1988).

Claim 47 was rejected for using the term "at least most of the major elements". To expedite prosecution, the term "at least" was deleted.

Claims 59 and 72-74 were rejected for using the term "selecting less than 10% (1%) of the physical elements of the vehicle".

Applicant disagrees with the rejection and states that the rejection does not follow the rules of MPEP 2173.05(b). Any person of the art will easily determine whether the limitation of the claim was met. The Examiner's suggested interpretation does not follow from the language of the claim and therefore cannot be used.

Claim 66 was rejected under 35 U.S.C. 112, second paragraph, for using the term "a form of the database". To reduce the number of issues in dispute, the phrase "a form of" was removed from the claim.

Independent claim 23

Claims 23-25, 31 and 76 stand rejected under 35 U.S.C. 102(b) as being anticipated by Jolliffe et al., (U.S. patent 5,646,862).

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Claims 26-27 and 29 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Jolliffe et al., (U.S. patent 5,646,862) in view of Barker et al (US patent 6,314,622).

Claim 28 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Jolliffe et al., (U.S. patent 5,646,862) in view of Barker et al and further in view of Bly et al. (U.S. patent 5,008,853).

Claim 30 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Jolliffe et al., (U.S. patent 5,646,862).

Claim 75 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Jolliffe et al., (U.S. patent 5,646,862) in view of Bly et al. (U.S. patent 5,008,853).

Claim 23 was amended to include the limitation of claim 27, slightly amended to state that only information not restricted for viewing is gathered. Applicant respectfully traverses the rejection of claim 27 (now claim 23) and states that the Examiner has not established a *prima facie* rejection of the claim.

MPEP 2142 states that:

"To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143 - § 2143.03 for decisions pertinent to each of these criteria."

In order to establish a *prima facie* rejection, the Examiner must show each of the limitations of claim 23 in either the art or generally available knowledge. None of the references cited suggests collecting only information not restricted for viewing in an environment including restricted information.

The Examiner admittedly has not met the third requirement, as none of the cited references teaches or suggests the limitation added to claim 23. In the rejection of claim 27, the Examiner only stated that it would be obvious to gather only the information which is not restricted from viewing by any of the workers. Such a merely conclusory statement is not sufficient to establish a *prima facie* rejection.

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Furthermore, the Examiner's statement that it would have been obvious in Jolliffe to gather only the information that is not restricted from viewing by any of the workers totally contradicts Jolliffe, since Jolliffe relates to a central repository to store all design analysis and library information. Jolliffe's central repository would not meet its goal if it did not include information that is restricted from viewing. If the Examiner's logic is correct, it is assumed that Jolliffe includes security measures which are not mentioned as they are not important to the description of Jolliffe. But regardless of whether security measures are included or not included, Jolliffe simply suggests the opposite of leaving out restricted information.

In relating to claim 23, the Examiner stated that Jolliffe does not require collecting all information. Applicant respectfully disagrees.

The translators of Jolliffe relate to the entire internal data structures (col. 2, lines 54-56) and "must accurately support the data by providing a superset of all data required" (col. 4, lines 34-39). The statement of the Examiner that when industry standards are available they can be used to represent the information do not contradict the basic statement that Jolliffe requires representing all data. How the data is represented, by lengthy description or by short references to industry standards is of no consequence for the present discussion. The fact is that all the data is represented, whether by a short reference to a known standard or by a long description of a non-standard device. Analogously, a video movie is represented in its entirety whether it is represented by raw data or by compressed data.

The Examiner also related to the statement "picking the pertinent pieces of information" from col. 8, lines 41-42, as indicating that Jolliffe does not collect all information into the central repository. Applicant notes, however, that the inbound translators of Jolliffe may receive an ASCII file (col. 8, line 35). As is known in the art, in translating an ASCII file it is required to parse the file and pick the data from the spaces and tabs. It is this task that Jolliffe refers to in stating "picking the pertinent pieces of information". Any other interpretation would not be consistent with the goal of Jolliffe (col. 2, lines 26-29) to translate between computer aided engineering tools (see also col. 6, lines 12-17).

The Examiner further related to the example of Fig. 10 in which Jolliffe maps the data into the EDIF format which does not have a standard representation for harnesses. Applicant notes, however, that all the data is represented by Jolliffe, although in a less natural format.

The Examiner also related to Col. 6, lines 49-59, which state that the user initializes the inbound translation. Applicant, however, does not understand how this is related to the amount of data collected in the central repository and how the Examiner concludes from this that Jolliffe

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suggests a selection of data. That is, even if the user can use the repository of Jolliffe for tasks other than those for which it is intended, that does not mean that the reader would have thought to do so.

The dependent claims are allowable at least by virtue of their parent claim. Nonetheless, at least some of the claims add further patentability over the art.

Claim 26, for example, requires gathering references to documents describing the elements.

The first requirement of MPEP 2142 is that there must be some suggestion or motivation in the prior art or general knowledge to combine the references. The Examiner's statement that it would be obvious to combine Jolliffe and Barker is not based on any suggestion in the art to do so but rather is based on the present application and is therefore impermissible.

Jolliffe is directed at accommodating data interchange between different types of CAE tools (abstract). Barker, on the other hand suggests linking documents to each other. The Examiner did not provide any teaching to add links to documents to a system of interchanging data between different formats.

Furthermore, it is not clear how the teachings of Jolliffe and Barker can be combined at all. Barker describes including links to documents in other documents, but Jolliffe does not have documents at all. Failure of the art to teach or indicate how to combine two references makes their combination not *prima facie* obvious. Moreover, when one of the references does not relate to the limitation at all, it is difficult to see how *prima facie* obviousness can occur.

Independent claim 72

Claims 72 and 74 stand rejected under 35 U.S.C. 102(b) as being anticipated by Jolliffe et al. (U.S. patent 5,646,862).

Claim 73 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Jolliffe et al. (U.S. patent 5,646,862) in view of Cornett et al. (US patent 5,216,612).

Claims 41-42 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Jolliffe et al. (U.S. patent 5,646,862) in view of Benjamin et al. (U.S. patent 6,438,535).

Applicant respectfully traverses the rejection and states that the Examiner has not established a *prima facie* rejection of claim 72, since the Examiner has based his rejection on an impermissible interpretation of the claim.

Claim 72 requires selecting fewer than 10% of the physical elements of the vehicle and gathering information regarding the selected elements and storing the gathered information in a database, having records only for the major elements.

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The Examiner totally ignored the requirement of selecting fewer than 10% of the physical elements and has not shown any reference to a reference that creates a vehicle database with records for less than 10% of the elements.

If the reference does not teach all of the elements of the claim, there can be no *prima facie* anticipation. (MPEP 2131)

The dependent claims are allowable at least by virtue of their parent claim.

Independent claim 32

Claims 32-40, 43-44, 53, 55-59 and 61-71 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Jolliffe et al. (U.S. patent 5,646,862) in view of Benjamin et al. (U.S. patent 6,438,535) and further in view of Pray et al. (U.S. patent 4,885,694).

Claim 54 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Jolliffe et al. (U.S. patent 5,646,862) in view of Benjamin et al., (U.S. patent 6,438,535) and further in view of Pray et al. (U.S. patent 4,885,694) and Cornett et al. (US patent 5,216,612).

Claim 60 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Jolliffe et al. (U.S. patent 5,646,862) in view of Benjamin et al., (U.S. patent 6,438,535) and further in view of Pray et al. (U.S. patent 4,885,694) and Barker et al (US patent 6,314,622).

While applicant disagrees with the Examiner's rejection that states that Jolliffe does not require including all information (as explained above with respect to claim 23), in the interest of providing claims which depend on various features for patentability, applicant has amended claim 32 to require that the database does not include sufficient information for at least some of the design tasks of the vehicle performed using the computerized tools. This is clearly not taught or suggested by the cited art.

Jolliffe relates to interchange of data between CAE tools and becomes useless if it does not include sufficient information to perform design tasks. Benjamin is directed at a central database which lists all the elements of the vehicle (Benjamin, col. 3, lines 5-8). Pray relates to an automated building control design system. Thus, none of the references teaches or suggests a database that does not include sufficient information for design tasks.

The dependent claims are allowable by virtue of their parent claim. Nonetheless, at least some of the dependent claims add further patentability over the cited art.

Claim 55 requires gathering information only for elements which are handled by personnel from a plurality of different departments. The rejection provided by the Examiner relates to information handled by different departments and not to elements handled by personnel from different departments. Therefore, the rejection does not relate to the language of the claim.

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The Examiner's statement that: "It would have been obvious to combine this feature with the invention of claim 32 to provide a database that supports additional features, such as billing functionality." does not meet the requirements from a rejection set forth in the MPEP. The Examiner is required to show art which renders the claims obvious and not to reject the claims based on merely conclusory statements as to what could have been obviously added to claim 32. Applicant respectfully submits that the only basis for this "obviousness" rejection is the present application.

Claim 57, for example, requires storing the gathered data in the database having a total storage space of less than 1 Gbyte. In highlighting "light weight" embodiments, this claim emphasizes the difference between the prior art and the system of claim 32 which relates to a database that does not include information on all the elements of the vehicle.

Independent claim 77

Claim 77 stands rejected under 35 U.S.C. 102(b) as being anticipated by Jolliffe et al. (U.S. patent 5,646,862).

Claim 77 was amended to require that the gathered information does not include sufficient information for at least some of the design tasks of the vehicle performed using the computerized tools. As discussed regarding claim 32, this is not taught or suggested by the art.

Independent claim 45

Claims 45-48 and 78 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Benjamin et al., (U.S. patent 6,438,535) in view of Cornett et al. (U.S. patent 5,216,612).

Claim 49 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Benjamin et al., (U.S. patent 6,438,535) in view of Cornett et al. (U.S. patent 5,216,612) and further in view of Jolliffe et al. (U.S. patent 5,646,862).

Applicant respectfully traverses the rejection and states that the Examiner has not established a *prima facie* rejection of claim 45, since the Examiner has not shown a reference that assigns codes to elements responsive to the system to which the element belongs, as required by claim 45. In addition, the Examiner has not shown assigning codes which are unique to each occurrence of the element in the aircraft. Furthermore, the Examiner has not explained why it would be obvious to utilize methods of assigning codes in computer systems, which are produced in a very innovative industry, to aircrafts, which are designed in a very conservative industry. In the aircraft industry, different departments use different tools in accordance with long standing traditions. (See the discussion above of *prima facie* obviousness.)

Cornett describes, to applicant's best understanding, the well known method of assigning

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part numbers according to the part being used, regardless of its location in the system. None of the plurality of codes assigned to a part (col. 5, lines 24-36) differentiates between different occurrences of the part in the system. Rather, the different part numbers relate to alternative parts which may be used instead of the original part.

Independent claim 50

Claims 50-52 stand rejected under 35 U.S.C. 102(b) as being anticipated by Barnewall et al., (U.S. patent 5,634,055). The Examiner referred to col. 2, line 64 – col. 3, line 24.

Applicant respectfully traverses the rejection and states that the Examiner has not established a *prima facie* case of anticipation, since Barnewall lacks at least one element of claim 50. (See discussion above regarding *prima facie* anticipation.)

Claim 50 requires assigning each part of an aircraft, a part number code which includes an assigned configuration management code of an aspect to which the part belongs and assigning worker codes which include the configuration management code of the aspect on which the worker works.

Barnewall does not relate to assigning part number codes, but rather to assigning IDs to trips of aircrafts. The codes in Fig. 3 of Barnewall are flight number codes. Barnewall does not assign worker codes at all. The interpretation of aircraft “part” as relating to a flight of the aircraft contradicts any dictionary or reasonable meaning of the word part, and more important contradicts the meaning of the term “part” in the present application (see, for example, page 2, lines 11-12).

Nonetheless, in order to forward the application to allowance, claim 50 was amended to specifically state that the workers work in designing the aircraft. The dependent claims are allowable at least by virtue of their parent claim. Retraction of the rejection is respectfully requested.

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Conclusion

In view of the above remarks, applicant submits that the claims are patentable over the prior art. Allowance of the application is respectfully awaited. If, however, the Examiner is not convinced and the Examiner is of the opinion that a telephone conversation may forward the present application toward allowance, applicant respectfully requests that the Examiner call the undersigned at 1 (877) 428-5468. Please note that this is a direct *toll free* number in the US that is answered in the undersigned's Israel office. Israel is 7 hours ahead of Washington.

Respectfully submitted,
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